Author Index

A

Abbott, R., Population genetics and plant breeding: homage to R.W. Allard 5
Abrams, P.A., Review of *Perspectives in Ecological Theory*, edited by J. Roughgarden, R.M. May and S.A. Levin 220
Albon, S.D., Review of *Megaherbivores*, by R.N. Owen-Smith 320
Aldridge, R.J., Review of *The Conodonta*, by W.C. Sweet 219
Allen, J.A., Searching for search image 361
Allendorf, F.W., *see* Leary, R.F.
Arak, A., *see* Temrin, H.
Austad, S.N., Game theory and the evolution of animal contests 2
Austin, M.P., Review of *Plant Strategies and the Dynamics and Structure of Plant Communities*, by D. Tilman 28
Avise, J.C., A role for molecular genetics in the recognition and conservation of endangered species 279
Ayre, D.J. and Whelan, R.J., Factors controlling fruit set in hermaphroditic plants: studies with the Australian Proteaceae 267
Ayres, J.M., Debt-for-equity swaps and the conservation of tropical rain forests 331
see de Magalhaes Lima, D.

B

Bailey-Watts, A.E., Review of *Growth and Reproductive Strategies of Freshwater Phytoplankton*, edited by C.D. Sandgren 359
Bairlein, F., Reply to 'Trans-Saharan bird migration' 23
Bartlein, P.J. and Prentice, I.C., Orbital variations, climate and paleoecology 195
Bazely, D.R., Carnivorous herbivores: mineral nutrition and the balanced diet 155
Beattie, A., Myrmecotrophy: plants fed by ants 172
Bennett, A.T.D. and Houston, A.I., When to change habitat 3
Bergerud, A.T., Review of *Ecology and Management of Gamebirds*, edited by P.J. Hudson and M.R.W. Rands 119
Berryman, A.A. and Millstein, J.A., Are ecological systems chaotic – and if not, why not? 26
Reply to 'Avoiding chaos' 240
Bianchi, T.S., Jones, C.G. and Shachak, M., Positive feedback of consumer population density on resource supply 234
Blythe, S., *see* Nisbet, R.
Bourke, A.F.G., *see* Davies, N.B.
Brain, P.F., Review of *Aggression and War*, edited by J. Groebel and R.A. Hinde 282
Breed, M.D., Review of *Biogeography and Taxonomy of Honeybees*, by F. Ruttner 252
Bristow, C.M., Host development offers new insight into insect–plant interactions 123
Brock, T.D., Review of *Microbial Ecosystems of Antarctica*, by W.F. Vincent 219
Brooke, M. de L., *see* Davies, N.B.
Brown, J.H. and Roughgarden, J., US ecologists address global change 255
Bullock, S.H., *see* Putz, F.E.
Burdon, J.J., Review of *Plant Population Biology*, edited by A.J. Davy, M.J. Hutchings and A.R. Watkinson 309
Burke, T., DNA fingerprinting and other methods for the study of mating success 139

C

Caldwell, M.M., Teramura, A.H. and Tevini, M., The changing solar ultraviolet climate and the ecological consequences for higher plants 363
Caro, T.M., Missing links in predator and antipredator behaviour 333
Catchpole, C.K., Pseudoreplication and external validity: playback experiments in avian bioacoustics 286
Caterall, C.P., *see* Elgar, M.A.
Chaloner, W.G., Review of *Origin and Evolution of Gymnosperms*, edited by C.B. Beck 319
Charlesworth, B., The evolution of sex and recombination 264
Charlesworth, D., Evolution of low female fertility in plants: pollen limitation, resource allocation and genetic load 289
Chesson, P. and Huntly, N., Short-term instabilities and long-term community dynamics 293
Clarke, C., *see* Kitching, R.
Clayton, N.S., Song, sex and sensitive phases in the behavioural development of birds 82
Cockburn, A., Adaptive patterns in marsupial reproduction 126
Cracraft, J., Review of

Analytical Biogeography, edited by A.A. Myers and P.S. Giller 248
Crisci, J.V., Review of *Prospects in Systematics*, edited by D.L. Hawkesworth 310
Crozier, R.H., *see* Elgar, M.A.
Curio, E., Is avian mortality preprogrammed? 81
Reply to 'Latitudinal changes in avian life histories' 273

D
Davies, N.B., Bourke, A.F.G. and Brooke, M. de L., Cuckoos and parasitic ants: interspecific brood parasitism as an evolutionary arms race 274
DeAngelis, D.L., *see* Kerfoot, W.C.
de Magalhaes Lima, D. and Ayres, J.M., Review of *Underdeveloping the Amazon*, by S.G. Bunker 250
Denny, M.W., Review of *Life's Devices*, by S. Vogel 187
des Clers, S., Review of *Population Harvesting*, by W.M. Getz and R.G. Haight 306
Dobson, A., Jolly, A. and Rubenstein, D., The greenhouse effect and biological diversity 64
Douglas, A.E. and Smith, D.C., Are endosymbioses mutualistic? 350
Dover, G.A., Review of *Evolution Without Selection*, by A. Lima-de-Faria 153
Doyle, J.F., Review of *Plant Evolutionary Biology*, edited by L.D. Gottlieb and S.K. Jain 188
Drake, V.A. and Farrow, R.A., The 'aerial plankton' and atmospheric convergence 381
Dunbar, R., Review of *Evolution and Human Kinship*, by A.L. Hughes 152

E
Eckhardt, R.B., Review of *Evolutionary Processes and Metaphors*, edited by M-W. Ho and S.W. Fox 325
Elgar, M.A. and Catterall, C.P., Density-dependent natural selection 95
Elgar, M.A. and Crozier, R.H., Animal allorecognition systems: how to get to know yourself 288
Endler, J.A. and Lyles, A.M., Bright ideas about parasites 246
Eriksson, M.O.G., Review of *Ospreys: A Natural and Unnatural History*, by A.F. Poole 392
Erwin, D.H., The end-Permian mass extinction: what really happened and did it matter? 225
Ewel, K.C., The role of women in ecology: a perspective from ecosystem science 39

F
Fairchild, I., Review of *The Pre-Cambrian Boundary*, edited by J.W. Cowie and M.D. Brasier 251
Fairweather, P.G., Interphyletic competition 50
see Underwood, A.J.
Farrow, R.A., *see* Drake, V.A.
Field, C.B. and Holbrook, N.M., Catastrophic xylem failure: tree life at the brink 124
Fitter, A.H., Review of *Comparative Plant Ecology*, by J.P. Grime, J.G. Hodgson and R. Hunt 189
Effects of herbivores on plants 213
Foley, R., Review of *Primate Adaptation and Evolution*, by John Fleagle 317
Futuyma, D.J., Review of *Evolutionary Genetics*, by J. Maynard Smith 314

G
Gadgil, M., Review of *The Ends of the Earth*, edited by D. Worster 356
Gilpin, M., *see* Pimm, S.L.
Ginsberg, J.R., Review of *Reindeer on South Georgia*, by N. Leader-Williams 315
Ginsberg, J.R. and Huck, U.W., Sperm competition in mammals 74
Gittleman, J.L., Review of *Evolution of Life Histories of Mammals*, edited by M.S. Boyce 307
see Pimm, S.L.
Gliddon, C.J. and Gouyon, P-H., The units of selection 204
Gottlieb, L.D., *see* Holsinger, K.E.
Gottschal, J.C., Review of *Microbial Ecology*, by H. Stolp 118
Gouyon, P-H., *see* Gliddon, C.J
Grassle, J.F., Species diversity in deep-sea communities 12
Greene, D.F. and Johnson, E.A., Particulate diffusion models and the dispersal of seeds by the wind 191
Gurney, W., *see* Nisbet, R.
Gwynne, D.T., Does copulation increase the risk of predation? 54

H
Haig, D., Seed size and adaptation 145
Hames, R., Review of *South American Indians: A Case Study in Evolution*, by F.M. Salzano and S.M. Callegari-Jacques 59
Hanski, I., Individual differences and variability bring European ecologists together 40
Metapopulation dynamics: does it help to have more of the same? 113
Hara, T., Review of *Size-Structured Populations: Ecology and Evolution*, edited by B. Ebenman and L. Persson 391
Harcourt, A.H., Environment, competition and reproductive performance of female monkeys 101
Harrison, R.G., Animal mitochondrial DNA as a genetic marker in population and evolutionary biology 6
Hassell, M.P., *see* May, R.M.
Hedrick, A.V. and Temeles, E.J., The evolution of sexual dimorphism in animals: hypotheses and tests 136
Herrera, C.M., Review of *Birds and Berries: A Study of an Ecological Interaction*, by B. Snow and D. Snow 90
Holbrook, N.M., *see* Field, C.B.
Holsinger, K.E. and Gottlieb,

L.D., The conservation of rare and endangered plants 193
Horder, T.J., Review of *Morphogenesis and Evolution*, by K. S. Thomson 390
Houston, A., Review of *Protean Behaviour*, by P.M. Driver and D.A. Humphries 311
see Bennett, A.T.D.
Huck, U.W., *see* Ginsberg, J.R.
Huey, R.B. and Kingsolver, J.G., Evolution of thermal sensitivity of ectotherm performance 131
Huntly, N., *see* Chesson, P.

I
Itô, Y., The evolutionary biology of sterile soldiers in aphids 69

J
Jaenike, J., Genetics of butterfly–hostplant associations 34
Jervis, M.A., Review of *The Hymenoptera*, edited by I. Gauld and B. Bolton 119
Johnson, C.R., Stability of Atlantic kelp forests 79
Johnson, E.A., *see* Greene, D.F.
Johnston, A.W.B., *see* Young, J.P.W.
Jolly, A., *see* Dobson, A.
Jones, C.G., *see* Bianchi, T.S.
Jones, D.A., Fifty years of studying the scarlet tiger moth 298
Jones, J.S., Review of *Biological Aspects of Human Migration*, edited by C.G.N. Mascie-Taylor and G.W. Lasker 187

K
Keough, M.J., Review of *Bryozoan Evolution*, by F.K. McKinney and J.B.C. Jackson 359
Kerfoot, W.C. and DeAngelis, D.L., Scale-dependent dynamics: zooplankton and the stability of freshwater food webs 167
Kingsolver, J.G., Review of *The Carnivorous Plants*, by B.E. Juniper, R.J. Robins and D.M. Joel 308
see Huey, R.B.
Kirby, K., Review of *Ecological Diversity and its Measurement*, by A. E. Magurran 88
Kitching, R. and Clarke, C., Indigenous tropical ecology 85
Knowlton, N., Review of *Coral Reefs of the World, Vols 1–3*, edited by S.M. Wells and M.D. Jenkins 305
Kodric-Brown, A., Genetic introgression after secondary contact 329
Küppers, M., Ecological significance of above-ground architectural patterns in woody plants: a question of cost–benefit relationships 375

L
Landsberg, J. and Ohmart, C., Levels of insect defoliation in forests: patterns and concepts 96
Law, R., New phenotypes from symbiosis 334
Lawton, J.H. and Warren, P.H., Reply to 'Patterns in food webs' 50
Lazarus, D., Sampling the sediments 80
Leary, R.F. and Allendorf, F.W., Fluctuating asymmetry as an indicator of stress: implications for conservation biology 214
Lee, P.C., Review of *Biology and Freedom*, by S.A. Barnett 316
Lenski, R.E., Are some mutations directed? 148
Lewis Smith, R.I., Review of *Vegetation of the Soviet Polar Deserts*, by V.D. Aleksandrova 151
Lindén, M. and Møller, A.P., Cost of reproduction and covariation of life history traits in birds 367
Lister, A.M., Proboscidean evolution 362
Lomnicki, A., Avoiding chaos 239
Review of *Dynamics of Forest Insect Populations*, edited by A.A. Berryman 322
see Woyciechowski, M.
Louda, S.M., Differential predation pressure: a general mechanism for structuring plant communities along complex environmental gradients? 158
Lövei, G.L., Trans-Saharan bird migration 22
Lovett Doust, J., Plant reproductive strategies and resource allocation 230
Reply to 'Plant resource allocation' 380
Lowe-McConnell, R., Review of *Rio Negro, Rich Life in Poor Waters*, by M. Goulding, M. Leal Carvalho and E.G. Ferreira 120
Lucas, J.R. and Waser, P.M., Defense through exploitation: a Skinner box for tropical rain forests 62
Luckinbill, L.S., Review of *Comparative Protozoology*, by O.R. Anderson 153
Lyles, A.M., *see* Endler, J.A.

M
MacCall, A.D., Review of *Ecosystems of the World 27: Continental Shelves*, edited by H. Postma and J.J. Zijlstra 313
Macdonald, D.W., Review of *The Ecology of Social Behaviour*, edited by C.N. Slobodchikoff 60
Mallet, J., The evolution of insecticide resistance: have the insects won? 336
Mani, G.S., Avoiding chaos 238
May, R.M., Review of *Chaotic Evolution and Strange Attractors*, by D. Ruelle; *Chaos*, edited by A.V. Holden; and *Chaos in Biological Systems*, edited by H. Degn, A.V. Holden and L.F. Olsen 281
May, R.M. and Hassell, M.P., Parasitoid theory: against manichaeism 20
Maynard Smith, J., Trees, bundles or nets? 302
McCracken, G.F., *see* Pimm, S.L.
McDonnell, M.J., *see* Pickett, S.T.A.
McNab, B.K., Laboratory and field studies of the energy expenditure of endotherms: a comparison 111
McNamara, J., Review of *Dynamic Modeling in Behavioral Ecology*, by

M. Mangel and C.W. Clark 310
Metz, H., *see* Nisbet, R.
Miller, D.J., Introductions and extinction of fish in the African great lakes 56
Millstein, J.A., *see* Berryman, A.A.
Møller, A.P., *see* Lindén, M.
Mooney, H.A., *see* Putz, F.E.
Moore, R.J., A hit-and-run reef vandal: progress in understanding the crown-of-thorns problem 36
Moss, B., Review of *Rehabilitating Damaged Ecosystems, Vols I and II*, edited by J. Cairns, Jr 249

N
Neuweiler, G., Foraging ecology and audition in echolocating bats 160
Nichols, R.A., Mitochondrial DNA clues to gopher tortoise dispersal 192
Nisbet, R., Blythe, S., Gurney, W., Metz, H. and Stokes, K., Avoiding chaos 238
Norell, M.A., *see* Novacek, M.J.
Noss, R.F., Review of *Saving America's Wildlife*, by T.R. Dunlap 358
Novacek, M.J. and Norell, M.A., Nuclear DNA content in bats and other organisms: implications and unanswered questions 285

O
O'Brien, S.J., Reply to 'Plausible alternatives to bottlenecks to explain reduced genetic diversity' 178
Ohmart, C., *see* Landsberg, J.
Onestini, M., Reply to 'Does ecology in Argentina need rebuilding?' 110
Orzack, S., The dynamics of species formation in *Drosophila* 93

P
Packer, C., Molecular ecology 156
Pamilo, P., Estimating relatedness in social groups 353
Pate, J.S., Australian micro stilt plants 45
Patterson, C., Review of *Genetics, Paleontology and Macroevolution*, by J. Levinton 89
Pearson, P., Review of *Modern Planktonic Foraminifera*, by C. Hemleben, M. Spindler and O.R. Anderson 322
Perrins, C.M., Review of *Atlas of Wintering North American Birds*, by T. Root 253
Philippi, T. and Seger, J., Hedging one's evolutionary bets, revisited 41
Pianka, E.R., Latitudinal gradients in species diversity 223
Pickett, S.T.A. and McDonnell, M.J., Changing perspectives in community dynamics: a theory of successional forces 241
Pimm, S.L., Gittleman, J.L., McCracken, G.F. and Gilpin, M., Plausible alternatives to bottlenecks to explain reduced genetic diversity 176
Power, A.G., Review of *The Ecology of Intercropping*, by J. Vandermeer 324
Prentice, I.C., *see* Bartlein, P.J.
Press, M.C., Autotrophy and heterotrophy in root hemiparasites 258
Putz, F.E., Mooney, H.A. and Bullock, S.H., Biology of vines 224

R
Rackham, O., Review of *Taming the Flood*, by J. Purseglove 326
Reiss, M., Plant resource allocation 379
Ricklefs, R.E., Nest predation and the species diversity of birds 184
Ridley, M., Review of *Origins*, edited by A.C. Fabian 118
Roberts, D.B., Review of *The Eukaryote Genome in Development and Evolution*, by B. John and G.L.G. Miklos 88
Roper, T.J., Review of *The Study of Instinct*, by N. Tinbergen 318
Roughgarden, J., *see* Brown, J.H.
Rubenstein, D., *see* Dobson, A.
Ruse, M., Teleology in biology: is it a cause for concern? 51
Ryder, O.A., Review of *Reproduction and Disease in Captive and Wild Animals*, edited by G.R. Smith and J.P. Hearn 313

S
Sabelis, M.W., Review of *Biological Control of Pests, Pathogens and Weeds: Developments and Prospects*, edited by R.K.S. Wood and M.J. Way 31
Schnack, J.A., Does ecology in Argentina need rebuilding? 110
Seger, J., *see* Philippi, T.
Shachak, M., *see* Bianchi, T.S.
Shapiro, D.Y., Inapplicability of the size-advantage model to coral reef fishes 272
Shettleworth, S.J., Review of *Intelligence and Evolutionary Biology*, edited by H.J. Jerison and I. Jerison 154
Sih, A., Review of *Complex Interactions in Lake Communities*, edited by S.R. Carpenter 356
Silvertown, J., The paradox of seed size and adaptation 24
Reply to 'Seed size and adaptation' 145
Slatkin, M., Review of *Population Genetics and Evolution*, edited by G. de Jong 29
Smith, D.C., *see* Douglas, A.E.
Soulé, M.E., Review of *Ecology, Community and Lifestyle*, by A. Naess 323
Stokes, K., *see* Nisbet, R.
Strassmann, J.E., Reply to 'Why do workers refrain from laying eggs?' 147
Altruism and relatedness at colony foundation in social insects 371
Strong, D.R., Reply to 'Parasitoid theory: against manichaeism' 21
Sugden, A.M., History and evolution 256
Sutherland, W.J., Review of *Reproductive Success*, edited by T.H.

Clutton-Brock 218
Latitudinal changes in avian life histories 273
Szathmáry, E.,
The cost of splicing and the late origin of introns 109
The integration of the earliest genetic information 200

T
Taylor, E.W., Review of *Biology of the Land Crabs*, edited by W.W. Burggren and B.R. McMahon 217
Temeles, E.J., *see* Hedrick, A.V.
Temrin, H. and Arak, A., Polyterritoriality and deception in passerine birds 106
Teramura, A.H., *see* Caldwell, M.M.
Tevini, M., *see* Caldwell, M.M.
Thompson, J.N., Concepts of coevolution 179
Tuomi, J. and Vuorisalo, T., Hierarchical selection in modular organisms 209

U
Underwood, A.J. and Fairweather, P.G., Supply-side ecology and benthic marine assemblages 16
Unwin, D.M., Review of *The Phylogeny and Classification of the Tetrapods*, edited by M.J. Benton 91
Uyenoyama, M.K., Review of *Speciation and its Consequences*, edited by D. Otte and J.A. Endler 389

V
Vuorisalo, T., *see* Tuomi, J.

W
Warner, R.R., Reply to 'Inapplicability of the size-advantage model to coral reef fishes' 272
Warren, P.H., *see* Lawton, J.H.
Waser, P.M., *see* Lucas, J.R.
Wells, M., Review of *Evolution and Adaptation of Terrestrial Arthropods*, by J.L. Cloudsley-Thompson 30
West, N.E., Review of *Shrub–Steppe*, edited by W.H. Rickard *et al.* 321
Westoby, M., Australia's high lizard diversity: a new hypothesis 38
Selective forces exerted by vertebrate herbivores on plants 115
Whelan, R.J., Australian ecology: past and future 33
see Ayre, D.J.
Whiten, A., Transmission mechanisms in primate cultural evolution 61
Wilcove, D.S., Protecting biodiversity in multiple-use lands: lessons from the US Forest Service 385
Winn, A.A., Using radionuclide labels to determine the post-dispersal fate of seeds 1
Woyciechowski, M. and Lomnicki, A., Worker reproduction in social insects 146

Y
Yodzis, P., Patterns in food webs 49
Young, J.P.W. and Johnston, A.W.B., The evolution of specificity in the legume–rhizobium symbiosis 341

Subject Index

A

African great lakes,
  biological invasions 56
aggression 282
  reproductive performance in monkeys 102
allopatry,
  secondary contact 329
allorecognition systems,
  clonal organisms 288
altruism,
  social insects 371
anthropology,
  human kinship 152
antipredator behaviour 333
ant–plant interactions 172
ants,
  brood parasitism 274
aphids,
  sterile soldiers 69
apomorphy,
  marsupials 126
apostatic selection,
  search image 361
architectural patterns in plants,
  ecological significance 375
Argentinian ecology 110
arms races,
  interspecific brood parasitism 274
arthropods,
  evolution and adaptation 30
atmospheric convergence,
  dispersal of invertebrates 381
audition,
  foraging ecology in echolocating bats 160
Australian ecology 33
autoevolution 153
avatars,
  units of selection 204

B

bats,
  foraging ecology and echolocation 160
  nuclear DNA content 285
behaviour,
  human 316
  instinct 318
  protean 311
benthic marine assemblages,
  supply-side ecology 16
bet-hedging,
  evolutionary 41
binary diagrams,
  evolutionary trees 302
bioacoustics,
  pseudoreplication in studies of bird song 286
biodiversity,
  protection in multiple-use lands 385
biogeography 248
  latitudinal gradients in species diversity 223
  mitochondrial DNA 156
biological control,
  pests and pathogens 31
biological diversity,
  greenhouse effect 64
biological invasions,
  Nile perch in African great lakes 56
  reindeer 315
biomechanics 187
bird song,
  imprinting 82
  playback experiments 286
birds,
  winter distributions 253
bluegill sunfish,
  optimization models and habitat choice 3
bottlenecks,
  mitochondrial DNA studies 8
  population genetics 176
brood parasitism,
  ants and cuckoos 274
bryozoan evolution 359
bundles,
  evolutionary 302
butterflies,
  coevolution with plants 34

C

carnivory,
  by plants 308
  by herbivores 155
chaos theory in ecology 26, 238, 281
climate change,
  orbital variations and palaeoecology 195
  effects of ultraviolet radiation on plants 363
clonal growth,
  plant reproductive strategies 232
clonal organisms,
  allorecognition systems 288
  hierarchical selection 209
clutch size,
  evolutionary bet-hedging 43
coevolution,
  ants and plants 172
  butterflies and plants 34
  concepts of 179
  vertebrate herbivores and plants 115
coexistence of species,
  nest predation 184
community dynamics 293
  succession 241
community ecology,
  deep sea 12
  lakes 356
  plants 28
competition,
  community dynamics 293
  fish in African great lakes 57
  interphyletic 50
  reproductive performance in monkeys 101
conodonts 219
conservation,
  fish in African great lakes 58
  North America 358
  protecting biodiversity in multiple-use lands 385
  rare and endangered plants 193
  tropical forest 250, 331
conservation biology,
  fluctuating asymmetry as an indicator of stress 214
  metapopulation dynamics 113

role of molecular genetics 279
contests between animals, game theory 2
continental shelf ecology 313
convergence, atmospheric 381
copulation, risks of predation 54
coral reefs 305
crown-of-thorns starfish 36
cost of reproduction, life history traits in birds 367
crabs, land 217
crown-of-thorns starfish, population biology 36
cuckoos, brood parasitism 274
cultural evolution, primates 61

D

debt-for-equity swaps, tropical forest conservation 331
deception, polyterritoriality in passerine birds 106
deep-sea communities, species diversity 12
defoliation, by insects in forests 96
density dependence, feedback mechanisms 234
natural selection 95
nest predation 184
developmental constraints, seeds 25
diapause, evolutionary bet-hedging 42
diet, vertebrate herbivores 155
diffusion models, seed dispersal by wind 191
directed mutation 148
dispersal, crown-of-thorns starfish 37
plankton 17
seeds 1, 90, 191
tortoises 192
wind 381
distance diagrams, evolutionary trees 302
disturbance, deep-sea communities 14
DNA content, nuclear 285
DNA fingerprinting, mating systems 139
domatia 172
dominance, reproductive performance in monkeys 102
dominance hierarchies, social insects 371
Drosophila, speciation 93
dynamic modeling, behavioural ecology 310

E

echolocation, foraging and audition in bats 160
ecological philosophy 323
ecological theory 220
ecosystem science, women in ecology 39
ectotherms, physiological ecology 131
elephant evolution 362
endosymbiosis 350
endotherms, physiological ecology 111
energy expenditure, endotherms 111
environmental history 356
ESS theory, contests between spiders 2
European ecology 40
evolutionary genetics 314
evolutionary theory 325
evolutionary thought, analogies with historical thought 256
evolutionary trees, geometry 302
evolutionary units 200
exploitation defense hypothesis, territorial behaviour 62
extinction, fish in African great lakes 56
metapopulation dynamics 114

F

feedback mechanisms, population dynamics 234
fitness, evolutionary bet-hedging 41
fluctuating asymmetry, conservation biology 214
fluctuating environments, community dynamics 293
food webs, dynamics 49
freshwater 167
foraging, audition in echolocating bats 160
territorial behaviour 62
foraminifera 322
forests, conservation 385
insect herbivory 96
fossil record, sedimentation processes 80
freshwater community ecology 356
freshwater food webs, scale-dependent dynamics 167
frugivory 90
fruit:flower ratios 267, 289

G

game theory, contests between animals 2
gamebirds, ecology and management 119
general circulation models, palaeoclimates 196
genetic information, evolution of 200
units of selection 204
genetic load, female fertility in plants 289
genetic markers, DNA fingerprinting 139
estimates of relatedness 354
mitochondrial DNA 8
genomic evolution 88
geometry, evolutionary trees 302
global change, US research 255
global warming, biological diversity 64
grazing, vertebrates 115
greenhouse effect, biological diversity 64
group selection, maintenance of sex 207
gymnosperm evolution 319
gynodioecy 205

H

habitat choice, bluegill sunfish 3
hemiparasites 258
herbivores, carnivory 155
large mammals 320
herbivory, effects of host

development 123
forest insects 96
vertebrates 115, 213
hierarchical approaches,
units of selection 205
histocompatibility complex,
polymorphism 157
history,
analogies with evolutionary thought 256
environmental 356
honeybees,
biogeography and taxonomy 252
host range,
genetics of rhizobium–legume symbiosis 345
hybridization,
mitochondrial DNA studies 9
secondary contact 329
hydrothermal vent communities 14
Hymenoptera,
taxonomy 119
hypercycle population dynamics,
evolution of genetic information 200

I

imprinting,
birds 82
Indians,
South American 59
insect sociality,
aphids 69
insect–plant interactions 34
herbivory 96, 123
insecticide resistance 336
intelligence 154
intercropping 324
introduced species,
reindeer 315
introns,
origins 109

K

kelp forests 79
kin selection,
altruism and relatedness in social insects 371
aphids 72
estimation of relatedness 353
kinship,
human 152
kleptoparasitism,
gall aphids 70

L

lactation,
marsupials 128
learning,
bird song 82
legume–rhizobium symbiosis 341
lianas 224
life expectancy,
birds 81
life histories,
birds 273
mammals 307
life history traits,
cost of reproduction in birds 367
lizards,
species diversity in Australia 38

M

mangroves,
seed predation 158
mark–release–recapture experiments,
scarlet tiger moth 298
marsupials,
reproduction and evolution 127
mass extinction,
end-Permian 225
mating systems,
polyterritoriality in passerine birds 106
studies with DNA fingerprinting 139
matriarchal phylogeny,
mitochondrial DNA 10
metapopulation dynamics 113
MHC polymorphism 157
micro stilt plants,
Australia 45
microbial ecology 118
Antarctica 219
Microchiroptera,
nuclear DNA content 285
migration,
birds 22
human 187
links with atmospheric convergence 381
mitochondrial DNA,
in evolutionary and population studies 6
mating systems 143
tortoise biogeography and evolution 192
modular organisms,
hierarchical selection 209
molecular clock,
Drosophila speciation 94
molecular evolution 156, 200
units of selection 206
molecular genetics,
conservation of endangered species 279
monkeys,
reproductive performance 101
monogamy,
passerine birds 106
morphogenesis 390
mortality,
birds 81
mutation,
directed 148
mutualism,
endosymbiosis 350
myrmecotrophy 172

N

natural selection,
density dependence 95
nest predation,
species diversity of birds 184
nets,
evolutionary 302
nitrogen fixation,
evolution of legume–rhizobium symbiosis 341
nodulation,
genetic control 345
nutrition,
of plants by ants 172
parasitic plants 258
vertebrate herbivores 155

O

offspring size,
evolutionary bet-hedging 43
optimization models,
bluegill sunfish 3
orbital variations,
climate and palaeoecology 195
origin of species 118
ospreys 392
oxygen-isotope records,
palaeoclimates 196
ozone layer,
effects of ultraviolet radiation on plants 363

P

palaeoecology,
orbital variations and climate 195
parasites,
sexual selection 246
parasitic plants,
nutrition 258
parasitism,
brood 274
social 274
parasitoid theory 20
paternity,
studies with DNA fingerprinting 139
Permian mass extinction 225

pest control,
forest insects 322
resistance to insecticides 336
phenotypic variation,
evolutionary bet-hedging 41
seeds 25, 145
photosynthesis,
effects of ultraviolet radiation 363
phylogeny,
legume–rhizobium symbiosis 341
vertebrates 91
physiological ecology,
ectotherms 131
effects of ultraviolet radiation on plants 363
endotherms 111
phytoplankton 359
plankton,
stability of freshwater food webs 167
plants,
breeding 5
conservation of rare and endangered species 193
ecological significance of architectural patterns 375
ecology 189
evolution of low female fertility 289
evolutionary biology 188
reproductive strategies 230
playback experiments,
avian bioacoustics 286
plesiomorphy,
marsupials 126
pollen limitation 267, 289
polygyny,
passerine birds 106
polymorphism,
allorecognition systems 288
histocompatibility 157
scarlet tiger moth 298
polyterritoriality,
passerine birds 106
population biology,
plants 309
population dynamics,
chaos 238
density-dependent feedbacks 234
hypercycles 201
population genetics 29
plant breeding 5
scarlet tiger moth 298
population harvesting and management 306
Precambrian–Cambrian boundary 251
predation,
aphids 70
crown-of-thorns starfish 36
fish in African great lakes 57
risks of copulation 54
species diversity of birds 184
structure of plant communities 158
predator behaviour 333
predator–prey relationships,
search image 361
primates,
cultural evolution 61
evolution 317
reproductive performance 101
proboscidean evolution 362
Proteaceae,
factors controlling fruit set 267
protocells,
early evolution 200
protozoology 153
pseudoreplication,
studies of bird song 286
punctuated equilibrium 89
pupfish,
hybridization 329

Q

quasispecies model,
evolution of genetic information 200

R

radioactive labelling,
seed dispersal studies 1
recombination,
evolution 264
recruitment,
benthic marine organisms 16
relatedness,
altruism in social insects 371
social groups 353
reproductive isolation,
prezygotic and postzygotic 93
reproductive performance,
monkeys 101
reproductive strategies,
plants 230
reproductive success 218
resource allocation,
female fertility in plants 289
fruit:flower ratios 267
plant reproductive strategies 230
plants 379
resource-availability model,
insect herbivory 97
resource distribution,
reproductive performance in monkeys 102
resources,
influence on population density 234
restoration ecology 249
restriction fragment length polymorphisms,
mating systems 139
retroviruses 156
rhizobium,
symbiosis with legumes 341
river ecology,
Amazonia 120
RNA replicators,
early evolution 200
root hemiparasites 258

S

scale-dependent dynamics,
zooplankton 167
scarlet tiger moth,
population genetics 298
search image,
detection of prey by predators 361
sedimentation,
fossil deposition 80
seeds,
dispersal 90
germination and evolutionary bet-hedging 42
models of wind dispersal 191
predation 158
radioactive labelling for dispersal studies 1
variation in size 24, 145
selection,
hierarchical in modular organisms 209
units 204
sex,
evolution 157, 207, 264
sex allocation,
marsupials 128
sex change,
size-advantage model 272
sex determination,
butterflies and hostplant coevolution 34
sexual dimorphism,
animals 136
sexual selection,
hybridization 329
role of parasites 246
shrub–steppe ecosystems 321
size-structured populations 391
social evolution,
estimates of relatedness 353

social insects,
altruism and relatedness 371
aphids 69
worker reproduction 146
social interactions,
birds 83
sociobiology,
human kinship 152
song,
imprinting in birds 82
Soviet plant ecology 151
speciation 389
Drosophila 93
species diversity 88
Australian lizards 38
birds 184
deep-sea communities 12
latitudinal gradients 223
sperm competition,
mammals 74
stability,
community dynamics 293
kelp forests 79
starfish,
crown-of-thorns 36
sterile soldiers,
aphids 69
stilt plants,
Australia 45
succession,
correlations with plant growth forms 377
theory of 241
supply-side ecology,
benthic marine assemblages 16
symbiosis,
evolutionary innovation 334
legume–rhizobium 341
prokaryotes and eukaryotes 350
systematics 310

T
teleology in biology 51
territorial behaviour,
exploitation defense hypothesis 62
territoriality,
passerine birds 106
thermal sensitivity,
ectotherms 131
tortoises,
molecular biology and biogeography 192
transposable elements 156
trees,
evolutionary 302
tropical ecology 85
tropical forest,
conservation 250
debt-for-equity swaps 331

U
ultraviolet radiation,
ecological consequences for plants 363
units of selection 204
modular organisms 209
US Forest Service,
protection of biodiversity in multiple-use lands 385

V
vegetation,
successional theory 241
viable populations,
protection of biodiversity in multiple-use lands 385
vines 224

W
wetlands,
history and natural history 326
wildlife management,
North America 356
wind dispersal,
seeds 191
women in ecology 39

X
xylem hydraulics 124

Z
zoo biology 313
zooplankton,
scale-dependent dynamics 167